

# Public Hydrology Products Issued by the WFO

## Mainstem River Flood Products

Flood Warning	FLW
Flood Watch	FFA
Flood Statement	FLS

### Flood Warning

Issued when flooding is imminent or occurring along a watercourse, and threatens lives and/or property. Events that require a Flood Warning are those for which the time between rainfall and resulting flooding is greater than 6 hours.

When it is necessary to add additional geographic areas to a product, a new Flood Warning must be issued to account for the expanded area. A new Flood Warning should also be issued when the crest forecast is revised upward significantly.

#### The Flood Warning product **generally** contains:

latest/current river stage/flow  
time/date when the river is expected to reach  
flood stage  
appropriate call to action statements  
any other hydrologic information pertaining to the  
event

the flood stage  
time/date and height of crest (if known)  
definition of Flood Warning  
time of next update

### **Example Flood Warning**

GTFFLWGTF  
TTAA00 KMSO 191512  
FLOOD WARNING  
NATIONAL WEATHER SERVICE MISSOULA MT  
900 AM MDT SUN MAY 19 199X

...FLOOD WARNING IN EFFECT FOR YAAK AND FISHER RIVERS IN LINCOLN COUNTY OF  
NORTHWEST MONTANA...

THE NATIONAL WEATHER SERVICE HAS ISSUED A FLOOD WARNING EFFECTIVE UNTIL 6 AM MDT  
MONDAY MAY 20 FOR THE YAAK AND FISHER RIVERS IN LINCOLN COUNTY OF NORTHWEST  
MONTANA. THESE RIVERS ARE NEAR THE TOWNS OF TROY AND LIBBY.

EXCESSIVE SNOWMELT FROM RECORD SNOWPACK CONTINUED TO KEEP RIVERS AND TRIBUTARIES  
HIGH. RAINFALL AMOUNTS SINCE YESTERDAY AFTERNOON WERE ONLY ONE THIRD OF AN INCH  
OR LESS. HOWEVER AFTERNOON READINGS IN THE LOW 70S CAUSED SNOWMELT TO ADD TO

HIGH WATER LEVELS.

LATEST STAGES AND FORECASTS:

LOCATION	STAGE/TIME	FLOOD STAGE	FORECAST STAGE
YAAK R./TROY	8.0/3AM	8.0	9.0/19TH-6PM
FISHER R./	6.4/3AM	7.5	7.5/19TH MIDN.

A FLOOD WATCH REMAINS IN EFFECT FOR FLATHEAD AND LINCOLN COUNTY STREAMS AND RIVERS THROUGH MONDAY. SUNNY SKIES THIS MORNING WILL GIVE WAY TO MORE AFTERNOON THUNDERSTORMS WITH LOCALLY HEAVY RAIN POSSIBLE.

A FLOOD WARNING MEANS FLOODING IS OCCURRING OR IMMINENT. TAKE NECESSARY ACTION AND STAY ADVISED. RISING FLOOD WATERS WITH COLD WATERS FROM RAPID SNOWMELT AND HEAVY RAIN CAN CATCH YOU QUICKLY OFF GUARD. YOU CANNOT DETERMINE FLOOD WATER DEPTHS ON ROADWAYS.

THE MONTANA DISASTER EMERGENCY SERVICES AND THE NATIONAL WEATHER SERVICE WILL CONTINUE TO KEEP YOU ADVISED. PLEASE REPORT ANY FLOODING TO YOUR NEAREST LAW ENFORCEMENT AGENCY OR NATIONAL WEATHER SERVICE OFFICE.

END/

### **Flood Watch**

Issued when flooding is possible, but not imminent, within the geographical area around a watercourse.

When it is necessary to add additional geographic areas to a product, a new Flood Watch must be issued to account for the expanded area.

The inclusion of additional or updated information (not geographic area(s)), or the cancellation of a Flood Watch should be done using the Flood Statement product.

#### **The Flood Watch product generally contains:**

list of the counties which contain section(s) of the river(s) that have potential for flooding  
you may want to include the current flow/stage of any forecast points along the river(s), that are within the area covered by the watch  
could also include the flood stage of any forecast points along the river(s), that are within the area covered by the watch  
definition of a flood watch  
appropriate call to action statements  
any other hydrologic information pertinent to the event

### **Example Flood Watch**

BOIFFABOI

TTAA00 KBOI 291900

IDC001-027-300300-

BULLETIN - IMMEDIATE BROADCAST REQUESTED  
FLOOD WATCH

NATIONAL WEATHER SERVICE BOISE IDAHO  
110 PM TUE MAR 21 2000

...FLOOD WATCH FOR THE WEISER RIVER...

THE NATIONAL WEATHER SERVICE HAS ISSUED A FLOOD WATCH FOR THE WEISER RIVER IN ADAMS AND WASHINGTON COUNTY FOR TODAY AND WEDNESDAY.

AT 1230 PM TUE THE WEISER RIVER NEAR WEISER RIVER GAGE WAS AT 7.5 FEET...FLOOD STAGE IS 9.5 FEET. THE RIVER WILL SLOWLY RISE AND MAY APPROACH FLOOD STAGE LATE ON WEDNESDAY.

A SYSTEM WITH HEAVY RAIN COULD OCCUR IN THE WEISER BASIN TONIGHT ALONG WITH WARM TEMPERATURES. THE RAINFALL WITH THE ADDITION OF SNOWMELT COULD CAUSE THE WEISER RIVER TO RISE ABOVE FLOOD STAGE LATE ON WEDNESDAY.

REMEMBER...A FLOOD WATCH MEANS FLOODING IS POSSIBLE WITHIN THE AREA COVERED BY THE WATCH.

A FLOOD WARNING MAY BE ISSUED TUESDAY EVENING IF THE RAINFALL DEVELOPS OVER THE WEISER BASIN. PERSONS WITH INTERESTS ALONG THE WEISER RIVER SHOULD BE PREPARED FOR POSSIBLE HIGH WATER.

END...WFO BOISE

### **Flood Statement**

Used as a "follow-up" product to provide additional or updated information to a valid Flood Watch/Warning.

Should be issued until all watercourses featured in the Flood Watch/Warning are below flood stage, and do not pose a threat to surrounding areas (i.e. until all Watches/Warnings have been dropped).

A Flood Statement can be used as a "stand alone" product to convey information about an event that is producing nuisance flooding.

Used to cancel a Flood Watch/Warning for a particular reach of river, or the entire Watch/Warning.

Should be issued as conditions change, new information becomes available, or as often as deemed necessary. It should be issued at least every 12 hours when a flood warning is in effect.

#### **The Flood Statement product *generally* contains:**

headline should announce whether the Watch/Warning is still in effect or canceled  
a summary of all the currently effective hydrology watches, warnings, or advisories  
any updated stage/flow levels and forecasts  
any other pertinent changes/updates to the hydrologic situation  
definition of a flood watch or warning  
appropriate call to action statements

### **Example Flood Statement**

GTFFLSBIL

RWUS42 KBIL 311700

MTZ040-010000-

FLOOD STATEMENT

NATIONAL WEATHER SERVICE BILLINGS MT

1000 AM MDT FRI MAY 31 1996

THE FLOOD WARNING FOR THE SHIELDS RIVER IN PARK COUNTY HAS BEEN CANCELED.

AT 900 AM MDT THE STAGE OF THE SHIELDS RIVER AT LIVINGSTON WAS 5.00 FEET AND FALLING. FLOOD STAGE IS 5.50 FEET.

MOST OF THE RAIN HAS ENDED IN SOUTH CENTRAL MONTANA. WITH COOLER AND DRIER AIR MOVING INTO THE REGION... THE RIVER SHOULD CONTINUE TO FALL OVER THE NEXT FEW DAYS.

## **Flash Flood Products**

Flash Flood Warning	FFW
Flash Flood Watch	FFA
Flash Flood Statement	FLS

### **Flash Flood Warning**

Issued when a short-fused (i.e. less than 6 hours) flooding event is imminent or in progress, and poses a threat to lives and/or property.

Issued when an office receives a report of a dam failure or breach that is imminent or currently in progress.

A Flash Flood Warning indicates there **is** a need for immediate action.

#### **The Flash Flood Warning product **generally** contains:**

the states and counties affected  
the reason for the flash flood warning (i.e. heavy rain, dambreak, etc.)  
the time the product will expire  
definition of a Flash Flood Warning  
any other hydrometeorological information pertaining to the event  
appropriate call to action statements

### **Example Flash Flood Warning**

PHXFFWTUS

TTAA00 KTUS 182004

AZC003-182135-

BULLETIN - EAS ACTIVATION REQUESTED  
FLASH FLOOD WARNING  
NATIONAL WEATHER SERVICE TUCSON AZ  
100 PM MST MON JUL 18 1997

THE NATIONAL WEATHER SERVICE IN TUCSON HAS ISSUED A

\* FLASH FLOOD WARNING FOR...  
SOUTH CENTRAL COCHISE COUNTY IN SOUTHEAST ARIZONA.  
THIS INCLUDES BISBEE.

\* UNTIL 3 PM MST

\* AT 1255 PM MST...DOPPLER RADAR INDICATED AN AREA OF THUNDERSTORMS WITH VERY HEAVY RAINFALL OVER BISBEE AND THE MULE MOUNTAINS... MOVING NORTH AT 5 MPH. ADDITIONAL STORMS ARE EXPECTED IN THIS AREA UNTIL 3 PM.

### **Flash Flood Watch**

Issued when guidance or certain conditions indicate the possibility of flash flooding within the time frame of the next 36 hours.

Issued when an office receives notice that there is **potential** for a dam failure or breach, but the situation is not imminent or already in progress. Flash Flood Watches are followed up with Flash Flood Statements, or if the threat becomes imminent or is in progress, a Flash Flood Warning should be issued.

#### **The Flash Flood Watch product *generally* contains:**

the geographical area (counties, portion of a state, or basin) of the watch  
the reason for the flash flood watch (i.e. heavy rain, potential dam breach/failure, etc.)  
the time the product will expire  
definition of a Flash Flood Watch  
any other hydrometeorological information pertaining to the event  
appropriate call to action statements

### **Example Flash Flood Watch**

ZCZC LAXFFALAX DEF  
TTAA00 KLAX DDHHMM  
CAC037-111-200600-

BULLETIN - IMMEDIATE BROADCAST REQUESTED  
FLASH FLOOD WATCH  
NATIONAL WEATHER SERVICE LOS ANGELES/OXNARD CA  
200 PM PST SAT FEB 19 2000

...A FLASH FLOOD WATCH HAS BEEN ISSUED FOR SUNDAY NIGHT AND MONDAY FOR THE BURN AREAS OF VENTURA AND LOS ANGELES COUNTIES...

THERE IS NO FLASH FLOODING OCCURRING. A FLASH FLOOD WATCH MEANS FLASH FLOODING IS POSSIBLE IN THE WATCH AREA.

A STRONG PACIFIC STORM IS MOVING TOWARDS SOUTHERN CALIFORNIA THIS AFTERNOON. IT IS EXPECTED TO MOVE ACROSS VENTURA AND LOS ANGELES COUNTIES SUNDAY NIGHT INTO MONDAY MORNING...BRINGING THE POSSIBILITY OF HEAVY RAIN AND POSSIBLE

THUNDERSTORMS. LIGHT RAIN IS POSSIBLE AS EARLY AS SUNDAY AFTERNOON ACROSS THE WATCH AREA...HOWEVER THE HEAVIER RAIN IS NOT EXPECTED UNTIL THE OVERNIGHT HOURS.

PERSONS LIVING IN OR BELOW THE WATCH AREA SHOULD REMAIN ALERT AND FOLLOW DIRECTIONS OF EMERGENCY PREPAREDNESS OFFICIALS. EVACUATIONS SHOULD BEGIN IMMEDIATELY WITHOUT WAITING FOR INSTRUCTIONS IF HEAVY FLOWS OF WATER OR MUD ARE OBSERVED.

THE RISKS OF MUD AND DEBRIS FLOWS HAVE BEEN INCREASED IN AND AROUND THE RECENT RANCH FIRE AREA IN VENTURA COUNTY...AS WELL AS THE RAFAEL AND SANTA ANITA BURN AREAS IN LOS ANGELES COUNTY. RESIDENTS IN THE VICINITY OF THESE BURN AREAS SHOULD BE ALERT FOR SUDDEN FLOODING OF CLOGGED STREAMS AND CREEKS.

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### **Flash Flood Statement**

Used to provide updated or additional information to a valid Flash Flood Watch/Warning.

Used to continue or cancel a Flash Flood Watch/Warning, or eliminate portions a geographical area from Watch/Warning status.

When it is necessary to add geographical areas to a Flash Flood Watch/Warning, then a new Watch/Warning must be issued.

#### **The Flash Flood Statement product *generally* contains:**

- headline with watch/warning area and valid time
- new or updated information
- a summary of any related products that are currently valid
- definition of a Flash Flood Watch or Warning
- any other hydrometeorological information pertaining to the event
- appropriate call to action statements

### **Example Flash Flood Statement**

ZCZC PHXFLSFLG  
TTAA00 KFLG DDHHMM  
AZZ015-016-150030

BULLETIN - EAS ACTIVATION REQUESTED  
FLASH FLOOD STATEMENT  
NATIONAL WEATHER SERVICE FLAGSTAFF AZ  
4 PM MST THU APR 14 200x

...FLASH FLOOD WARNING REMAINS IN EFFECT FOR SOUTH CENTRAL YAVAPAI COUNTY  
UNTIL 530 PM MST...

STRONG THUNDERSTORMS WITH VERY HEAVY RAIN CONTINUE OVER SOUTH CENTRAL YAVAPAI COUNTY. THE HEAVIEST PRECIPITATION OCCURRED JUST SOUTH OF CROWN KING. THE THUNDERSTORM PRODUCING THE PRECIPITATION WAS LOCATED ABOUT 10 MILES SOUTH OF CROWN KING AND WAS DRIFTING SLOWLY TO THE SOUTHEAST. HEAVY RAINFALL ALONG

HUMBOLDT CREEK AND COTTONWOOD CREEK WILL LIKELY CAUSE FLASH FLOODING.

PERSONS IN SOUTH CENTRAL YAVAPAI COUNTY SHOULD REMAIN ALERT FOR SIGNS OF RAPIDLY RISING WATER. IF RISING WATER IS OBSERVED MOVE TO HIGHER GROUND. DO NOT ATTEMPT TO CROSS FLOODED ROADWAYS.

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## **Urban and/or Small Stream Flood Products**

Urban and/or Small Stream Flood Warning	FLW
Urban and/or Small Stream Flood Advisory	FLS
Urban and/or Small Stream Flood Statement	FLS

### **Urban and/or Small Stream Flood Warning**

Issued when heavy precipitation and/or rapid snowmelt results in significant and prolonged flooding of streets, yards, underpasses, etc.  
Issued when major flooding along smaller or ungaged streams threatens lives or property.

#### **The Urban and/or Small Stream Flood Warning *generally* contains:**

the geographic area where urban and/or small stream flooding is or will be occurring  
what types of urban areas are affected (i.e. street/highways, underpasses, basements, etc.)  
names of small creeks or streams where there may be property damage and/or potential loss of life  
any other hydrometeorological information pertaining to the event  
appropriate call to action statements

### **Example Urban and/or Small Stream Flood Warning**

GTFFLWGTF  
TTAA00 KGTF 202004  
MTZ013-210800-

BULLETIN...IMMEDIATE BROADCAST REQUESTED  
SMALL STREAM FLOOD WARNING  
NATIONAL WEATHER SERVICE GREAT FALLS MT  
200 PM MDT FRI AUG 20 1999

...A SMALL STREAM FLOOD WARNING HAS BEEN ISSUED FOR WILLOW CREEK IN WESTERN JUDITH BASIN COUNTY...

A SMALL STREAM FLOOD WARNING HAS BEEN ISSUED FOR WILLOW CREEK IN WESTERN JUDITH BASIN COUNTY UNTIL 2 AM SATURDAY MORNING. AT 155 PM...DOPPLER RADAR INDICATED A THUNDERSTORM WITH HEAVY RAIN 15 MILES SOUTHWEST OF STANFORD MOVING SLOWLY EASTWARD. THIS THUNDERSTORM IS EXPECTED TO PRODUCE AN

ADDITIONAL 1 INCH OF RAINFALL JUST SOUTH OF STANFORD BETWEEN 3 PM AND 4 PM. WILLOW CREEK HAS BEEN REPORTED TO BE JUST ABOVE ITS BANKS DUE TO THE SEVERAL INCHES OF RAINFALL THAT HAVE FALLEN THE LAST FEW DAYS...AND THIS ADDITIONAL RAINFALL WILL CAUSE WILLOW CREEK TO RAPIDLY RISE AN ADDITIONAL 2 TO 3 FEET.

RESIDENTS SHOULD TAKE IMMEDIATE ACTION FOR THE PROTECTION OF PROPERTY AND LIVESTOCK ALONG WILLOW CREEK SOUTH OF STANFORD. STAY TUNED TO NOAA WEATHER RADIO OR YOUR LOCAL TELEVISION OR RADIO STATION FOR THE LATEST INFORMATION.

### **Urban and/or Small Stream Flood Advisory**

Similar to an Urban and Small Stream Flood Warning, except the flooding expected or already in progress is less severe.

Issued when there is a possibility of minor flooding of streets and other urban areas.

Issued when small creeks and streams are expected to cause nuisance flooding or inconvenience.

#### **The Urban and/or Small Stream Flood Advisory *generally* contains:**

the geographic areas where the minor nuisance flooding is occurring  
what types of urban areas are affected (i.e. street/highways, underpasses, basements, etc.)  
names of small creeks and/or streams where minor nuisance flooding is occurring  
any other hydrometeorological information pertaining to the event  
appropriate call to action statements

### **Example Urban and/or Small Stream Flood Advisory**

RWUS42 KGEG 050221  
FLSGEG  
WAZ036-037-051630-

SMALL STREAM FLOOD ADVISORY  
NATIONAL WEATHER SERVICE SPOKANE WA  
620 PM PST SAT MAR 4 2000

...SMALL STREAM FLOOD ADVISORY THROUGH SUNDAY MORNING FOR SOUTHERN STEVENS COUNTY AND EXTREME NORTHWEST SPOKANE COUNTY...

RAINFALL AMOUNTS OF A HALF INCH TO AN INCH HAVE FALLEN OVER THE PAST 24 HOURS ACROSS PORTIONS OF NORTHEAST WASHINGTON...ESPECIALLY FROM COLVILLE TO DEER PARK. THE BACK EDGE OF THE RAIN BAND IS EXPECTED TO EXIT THIS AREA DURING THE EVENING...BUT THE RISES ON SMALL STREAMS AND CREEKS WILL PERSIST THROUGH THE NIGHT.

THE HARDEST HIT AREA HAS BEEN THE WILLIAMS VALLEY IN EXTREME SOUTHEAST STEVENS COUNTY INTO EXTREME NORTHWEST SPOKANE COUNTY... WEST OF DEER PARK. AS OF EARLY THIS EVENING...SOME ROADS IN THIS AREA ARE STILL CLOSED. THIS INCLUDES BITTRICH...BELSTAR...ALONG WITH GLEN GROVE AND STALEY ROADS.

CREEKS AND SMALL STREAMS IN SOUTHERN STEVENS COUNTY AND NORTHERN SPOKANE COUNTY WILL REMAIN HIGH THROUGH THE NIGHT...DESPITE THE RAIN COMING TO A END. NUMEROUS ROADS MAY HAVE STANDING WATER... WHICH WILL BE DIFFICULT TO SEE IN THE DARK. MOTORISTS ARE URGED TO AVOID CROSSING WATER-COVERED ROADS.



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### **Urban and/or Small Stream Flood Statement**

Used to provide additional or updated information to an Urban and Small Stream Flood Warning/Advisory.

Used to cancel a valid Urban and Small Stream Flood Warning/Advisory.

#### **The Urban and/or Small Stream Flood Statement *generally* contains:**

the geographic area where the urban and/or small stream flooding is occurring  
any updated information  
any other hydrometeorological information pertaining to the event  
appropriate call to action statements

### **Example Urban and/or Small Stream Flood Statement**

PDXFLSPDT  
TTAA00 KPDT DDHHMM  
WAZ028-092130

URBAN AND SMALL STREAM FLOOD STATEMENT  
NATIONAL WEATHER SERVICE PENDLETON OR  
1030 AM PDT SAT MAY 9 1996

...AN URBAN AND SMALL STREAM FLOOD WARNING CONTINUES FOR FRANKLIN AND BENTON COUNTIES...

A THUNDERSTORM REMAINS NEARLY STATIONARY OVER THE TRI-CITIES AND HAD PRODUCED TORRENTIAL RAINFALL DURING THE PAST 2 HOURS. DOPPLER RADAR RAINFALL ESTIMATES AND SPOTTER REPORTS INDICATE THAT OVER 2.5 INCHES OF RAIN FALLEN OVER FRANKLIN AND BENTON COUNTIES.

AT 1015 AM...NUMEROUS SMALL STREAMS AND CREEKS ACROSS BENTON COUNTY ARE OUT OF THEIR BANKS AND CONTINUING TO RISE. THE PASCO POLICE HAVE CLOSED 10<sup>TH</sup> STREET IN DOWNTOWN PASCO UNDER STATE HIGHWAY 395...DUE TO FLOODING ASSOCIATED WITH BACKED UP STORM DRAINS.

NUMEROUS WASHES AND UNDERPASSES WILL LIKELY BE FILLED WITH WATER. PERSONS LIVING OR TRAVELING ACROSS BENTON AND FRANKLIN COUNTIES SHOULD BE ALERT FOR WATER ON THE ROADWAYS. DO NOT DRIVE THOROUGH WATER AND CONTINUE TO MONITOR NOAA WEATHER RADIO OR LOCAL MEDIA FOR ADDITIONAL WARNINGS AND STATEMENTS.

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## **Routine Hydrologic Products**

**River Statement**

Issued to provide information about a hydrologic event that does NOT include actual mainstem river flooding (i.e. the river is expected to remain below the official flood stage, but some public inconvenience and/or nuisance flooding may occur).

This product might be issued during situations such as: ice jamming, minor low-lying flooding that does not require action from local residents, significant rainfall or snowmelt creating high water levels, etc.

Used to cancel a Flood Potential Outlook when flooding is no longer expected.

This products should be issued for dissemination of routine information including: daily river statements, river recreation statements, etc.

**The River Statement product generally contains:**

geographical area where high water is expected  
why the high water is expected: ice break-up or formation, snowmelt, significant rainfall, etc.  
pertinent rainfall amounts or river level information could be added  
any other hydrologic information pertinent to the event  
appropriate call to action statements

**Example River Statement**

ZCZC SFORVSSFO ALL  
TTAA00 KSFO DDHHMM  
CAC053-069-085-087-152300-

RIVER STATEMENT  
NATIONAL WEATHER SERVICE SAN FRANCISCO CA  
445 PM PST THU FEB 14 1992

...SALINAS RIVER NEAR BRADLEY STAGE AT HIGH LEVELS THIS EVENING...

ALTHOUGH ALL POINTS ON THE SALINAS RIVER ARE FORECAST TO REMAIN BELOW FLOOD STAGE AT THIS TIME...HEAVY RAINS OVER THE PAST FEW DAYS HAVE CAUSED A MAJOR RISE ON THE SALINAS RIVER.

THE RIVER IS FORECAST TO CREST AT 11 FEET NEAR BRADLEY LATER THIS EVENING. THE RIVER WILL REMAIN HIGH...BUT WITHIN ITS BANKS...BETWEEN PASO ROBLES AND SAN ARDO THROUGH FRIDAY.

FLOW ON THE SALINAS IS FORECAST TO REACH THE PACIFIC OCEAN FOR THE FIRST TIME SINCE LAST MARCH...WITH SPRECKELS FORECAST TO CREST AT 11 FEET...12 FEET BELOW FLOOD STAGE...BY FRIDAY AFTERNOON. THE RIVER AT SPRECKELS IS NOW STILL DRY...AT 3.0 FEET...AS FLOW HAS NOT MADE IT DOWN THE RIVER TO SPRECKELS YET.

ALL THOSE AFFECTED BY CONDITIONS ON THE SALINAS RIVER SHOULD REMAIN ALERT FOR RENEWED RISES SHOULD MORE HEAVY RAINFALL DEVELOP LATER THIS WEEK. THE NEXT FORECAST OF SIGNIFICANT RAIN IN THIS AREA IS FOR FRIDAY NIGHT AND SATURDAY.

BE PREPARED TO MOVE EQUIPMENT...LIVESTOCK...AND OTHER VALUABLES.

FOLLOWING ARE CURRENT CONDITIONS AND FORECASTS FOR THE SALINAS RIVER..

STATION	4 PM STAGE TREND	FORECAST	FLOOD STAGE	RECORD/ DATE
SALINAS RIVER... BRADLEY	10.4	RISE TO NEAR 11.0 FT RISING THURSDAY EVENING. THEN RECEDE SLOWLY THRU FRIDAY.	13	20.3 2/69
SPRECKELS	3.0 DRY	RISE TO NEAR 11.0 FT BY FRIDAY AFTERNOON.	23	26.2 1/52

THE NEXT STATEMENT FOR THE SALINAS RIVER WILL BE ISSUED FRIDAY MORNING  
ABOUT 10 AM.

## **Hydrologic Outlooks**

Extended-Range Streamflow Products	ESF
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### **Flood Potential Outlooks**

This product is a “heads-up”, issued by an HSA office, to notify the public of the future possibility of river flooding. It generally covers hydrologic events that are expected to occur beyond 36 hours from the time the flood potential outlook is issued.

At the time a Flood Potential Outlook is issued, the hydrologic conditions do not warrant a Flood Watch/Warning.

Specific river stages and crest forecasts are not included in the product.

When the threat for flooding is expected within 36 hours, this products should be superseded with a Flood Watch or Flood Warning.

### **Example Flood Potential Outlook**

NNNN>##<A  
<ZCZC SFOESFSAC  
ETTAA00 KSAC 272147  
15-016-019-067-281800-

FLOOD POTENTIAL OUTLOOK  
NATIONAL WEATHER SERVICE SACRAMENTO CA  
230 PM PST FRI DEC 27 1999

...SATURATED SOIL AND HEAVY RAINFALL OVER THE WEEKEND WILL CAUSE A HIGH FLOOD  
POTENTIAL OVER THE UPPER SACRAMENTO AND TUOLUMNE RIVERS...

A VERY WET SUBTROPICAL STORM IS FORECAST TO BRING HEAVY RAIN TO NORTHERN  
CALIFORNIA SATURDAY NIGHT AND SUNDAY. THIS NEXT ROUND OF HEAVY RAIN OVER VERY  
WET SOIL CONDITIONS MAY CAUSE FLOOD PROBLEMS ON THE MAIN STEM UPPER SACRAMENTO  
RIVER FROM REDDING TO ORD FERRY. SMALLER RIVER AND STREAMS FLOWING INTO THE  
SACRAMENTO MAY ALSO EXPERIENCE FLOOD OR FLASH FLOOD PROBLEMS.

IN STANISLAUS COUNTY...THE TUOLUMNE RIVER FLOWING THROUGH MODESTO IS ALREADY RUNNING HIGH AND HEAVY RAINS ON SUNDAY MAY CAUSE FLOOD PROBLEMS. SMALL CREEKS...LIKE DRY CREEK...COULD BECOME PRONE TO FLASH FLOODING.

MORE RAIN IS EXPECTED MONDAY INTO TUESDAY WHICH COULD AGGRAVATE FLOODING OR POTENTIAL FLOOD PROBLEMS.

### **Spring Flood Potential Outlooks**

The issuance of this product varies by region. Each SH/HFP should be familiar with regional policy.

The product is used to convey information about water supply, drought, winter/spring snowmelt/snow pack, the possibility of spring flooding, and any other type of extended-range hydrologic information that may be pertinent.

This product is required from each issuing office on specific dates (coordinated by National Headquarters and the Regional Offices), to support the National Hydrologic Assessment (product put together by National Headquarters and used in the National Press Conference).

### **Water Supply Summary and Outlooks**

In some regions this product is often combined with the Spring Flood Potential Outlook. Each SH/HFP should be familiar with regional policy.

Some offices never issue this product, while others issue them regularly.

### **Example Spring Flood Potential Outlook/Water Supply Outlook**

ZCZC PHXESFPHX ALL  
TTAA00 KPHX DDHHMM

HYDROMET - FLOOD AND WATER SUPPLY SUMMARY AND OUTLOOK  
NATIONAL WEATHER SERVICE PHOENIX AZ  
315 PM MST THU MAR 9 2000

SUMMARY...

SPRING FLOOD POTENTIAL...  
MUCH BELOW NORMAL  
SEASONAL PRECIPITATION...  
BELOW NORMAL  
SNOWPACK CONDITIONS...  
BELOW MEDIAN  
RESERVOIR STORAGE...  
BELOW NORMAL EXCEPT ALONG THE COLORADO RIVER  
MONTHLY RUNOFF FORECASTS...  
MUCH BELOW MEDIAN  
SEASONAL RUNOFF FORECASTS...  
MUCH BELOW MEDIAN

SPRING FLOOD POTENTIAL...

THE FLOOD POTENTIAL FOR ARIZONA IS WELL BELOW NORMAL THIS SEASON. THROUGH FEBRUARY THERE HAD BEEN LITTLE PRECIPITATION AND THE SNOWPACK HAD BEEN ALMOST

NON-EXISTENT. A MAJOR STORM SYSTEM AFFECTED ARIZONA DURING THE FIRST WEEK OF MARCH...BRINGING EXTREMELY BENEFICIAL RAINS AND SNOWS. HOWEVER SEASONAL PRECIPITATION TOTALS REMAIN BELOW NORMAL...AND THIS STORM ALONE DID LITTLE TO ALTER THE SPRING FLOOD POTENTIAL. LONG RANGE WEATHER OUTLOOKS AND THE RESULTING SEASONAL RUNOFF FORECASTS INDICATE LITTLE EXPECTED CHANGE INTO MAY. AT THIS TIME...MAINSTREAM FLOODING COULD ONLY RESULT FROM EXCESSIVE...LONG-DURATION RAIN.

PRECIPITATION TOTALS THROUGH FEBRUARY 29...

	FEB TOTAL	OCTOBER 1 TOTAL	THROUGH NORMAL	PRESENT PERCENT
CANYON DE CHELLY	.27	.54	3.96	14
COOLIDGE	.14	.18	4.55	4
DOUGLAS	.00	.01	3.98	0
FLAGSTAFF	1.66	2.28	10.09	23
GILA BEND	.12	.20	3.26	6
GRAND CANYON	1.12	3.08	6.47	48
KINGMAN	.94	.95	4.20	23
PARKER	.23	.23	2.41	10
PAYSON	.33	.75	9.75	8
PHOENIX	.00	.01	3.66	0
PRESCOTT AIRPORT	1.07	1.20	4.37	27
SAFFORD	.04	.19	3.85	5
TUCSON	.19	.29	4.37	7
WILLCOX	.53	.61	4.72	13
WINSLOW	.04	.18	3.11	6
YUMA	.00	.00	1.55	0

SNOWPACK...AS OF FEBRUARY 29...

BASIN	PERCENT	MEDIAN
GILA	10	
SALT	5	
VERDE	10	
LITTLE COLORADO	5	

SNOWPACK...AS OF MARCH 7...INCLUDING EARLY MARCH PRECIP...

BASIN	PERCENT	MEDIAN
GILA	20	
SALT	35	
VERDE	60	
LITTLE COLORADO	40	

RESERVOIRS...

STORAGE VOLUME FOR RESERVOIRS WITHIN ARIZONA IS BELOW NORMAL. STORAGE IN RESERVOIRS ALONG THE COLORADO RIVER IS NEAR TO ABOVE NORMAL.

RESERVOIR/SYSTEM	PERCENT FULL	VOLUME IN ACRE-FT
SALT SYSTEM	42	847935
VERDE SYSTEM	23	70772
SAN CARLOS	8	74519
LAKE PLEASANT	90	767226
ALAMO LAKE	9	100582
PAINTED ROCK	0	4
LYMAN LAKE	24	7265
LAKE POWELL	86	20918000

LAKE MEAD	90	24899000
LAKE MOHAVE	94	1704000
LAKE HAVASU	87	543900

OUTLOOKS...

BELOW MEDIAN RUNOFF IS PROJECTED FOR MARCH.

LOCATION	OBS FEB FORECAST	FORECASTS FOR MARCH THOUSAND ACRE-Feet MEDIAN
SALT - ROOSEVELT.....	11.0 ..	14.0 ... 73.2
TONTO CREEK - ROOSEVELT..	0.7	0.7 8.6
VERDE - HORSESHOE.....	13.9 ..	12.0 ... 53.6
SAN FRANCISCO - CLIFTON..	4.0	3.5 11.6
GILA - SOLOMON.....	10.2 ..	8.0 ... 26.2

BELOW MEDIAN STREAM RUNOFF IS PROJECTED FOR THIS SEASON.

LOCATION	CURRENT THROUGH MAY 2000 FORECAST K-ACRE FEET	PERCENT OF MEDIAN
SALT - ROOSEVELT .....	35.0 .....	13
TONTO CREEK - ROOSEVELT .....	1.5	7
VERDE - HORSESHOE.....	30.0 .....	23
SAN FRANCISCO - CLIFTON.....	7.5	25
GILA - SOLOMON.....	15.0 .....	25

LONG RANGE WEATHER...FOR MARCH THROUGH MAY...  
...ABOVE NORMAL TEMPERATURES AND BELOW NORMAL PRECIPITATION  
STATEWIDE.

THE NEXT SCHEDULED HYDROMET OUTLOOK AND SUMMARY WILL BE  
ISSUED THURSDAY MARCH 23.

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